Interest Rates and Recovery

Report of a Symposium

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Contents

INTRODUCTION 1

REAL INTEREST RATES IN CANADA IN 1983
Perspective and Implications for Policy
by James E. Pesando

ARE REAL RATES TOO HIGH? 1

WHY ARE PRETAX REAL RATES HIGH? 6

Short Term Real Rates 6
Long Term Real Rates 8
(i) The Risk Premium Built into Longer Term Rates 8
(ii) Government Deficits and the Real Interest Rate on Longer Term Securities 9

WHAT ARE THE IMPLICATIONS IF REAL INTEREST RATES REMAIN HIGH? 10

WHAT CAN BE DONE TO REDUCE INTEREST RATES FROM THEIR PRESENT LEVELS? 13
A More Expansionary Monetary Policy 15
A More Restrictive Fiscal Policy 16
Other Policy Initiatives Designed to Reduce Inflation Uncertainty 17
Tax and Other Incentives 17

NOTES 18

SELECTED READINGS 21

THE SYMPOSIUM - A SUMMARY OF THE PROCEEDINGS 23

PARTICIPANTS IN THE SYMPOSIUM 34

Introduction

The North American economy in 1983 is rebounding from the severe recession into which it plunged more than two years ago. Interest rates have dropped sharply from their 1981 peaks, a development welcomed by the public. Yet many economists remain concerned about the level of real interest rates - that is, interest rates adjusted for anticipated inflation and for the erosion of purchasing power and financial asset values that are associated with inflation. These rates, to the extent they are measurable, seem to be lodged stubbornly at historically high levels.

In 1983 the question that seemed to preoccupy the minds of so many was "When will U.S. real interest rates drop?" This question implied that nominal interest rates should decline closer to the current level of inflation. It also implied that rates in Canada were closely tied to those in the United States. Linked to this concern were forecasts of dire consequences for the sustainability of growth and employment in the recovery if U.S. short term real interest rates remained at the levels that prevailed during the first half of 1983. And to further confound the matter, the recovery proceeded at a rapid pace during that period despite high real rates.

The C.D. Howe Institute convened a Symposium in Toronto on September 16, 1983 for the purpose of examining and coming to grips with these issues. To focus and provoke the debate, Professor James Pesando of the University of Toronto was commissioned to prepare a paper addressing four questions:

- Are real interest rates too high?
- If yes, why are real interest rates high?
- What are the implications if real interest rates remain high?
- What can be done to reduce real interest rates from their present levels?

It was the purpose of the Symposium to try to reach a consensus on these questions and, perhaps more important, to improve understanding of the reasons real rates are high in order to improve predictive power of future trends, and to identify implications and possible remedial actions. It was also the aim of the Symposium to identify areas of disagreement and

uncertainty about which policy makers, concerned analysts and all observers should be aware.

Aided by Professor Pesando's paper the participants reached a consensus on the major factors influencing the high level of real interest rates, the implications and the desirable policy responses. In the United States, upward pressure on long term real interest rates was attributed to the anticipated persistence, well into the recovery, of large U.S. government borrowing requirements relative to the level of domestic savings. Short term real interest rates were considered to be high because of restrictive monetary policy and the preference of many borrowers for short term financing due to the uncertainties about the longer term. Unless the U.S. budget deficit is reduced by measures that ensure it declines as recovery proceeds, continued high real rates will restrain investment activity and interest sensitive consumption spending. Immediate and credible commitments to cut spending or increase taxes as economic activity recovers would be the best way to reduce those deficits, concluded the participants.

In Canada, the higher domestic savings rate and the anticipated reduction in government budget deficits as recovery proceeds are placing less upward pressure on long term real interest rates. But both short and long term real rates in Canada tend to follow the pattern of those in the United States because of the close integration of capital markets in the two countries.

The basis for these conclusions is elaborated in the summary of the Symposium proceedings that follows Professor Pesando's paper. The Symposium participants, economists from both Canada and the United States, were drawn from central banks, official government agencies, as well as the financial and academic communities. They were requested to express their own views rather than any particular official view; it is in that spirit

that the proceedings are summarized for publication. This Symposium was valuable to the development of the Institute's view of the issues debated; while not directly expressed here, this view will influence the evaluation of policy and policy options in the Institute's forthcoming Policy Review and Outlook, 1984.

Wendy K. Dobson
Executive Director
October, 1983

Real Interest Rates in Canada in 1983: Perspective and Implications for Policy:

A Discussion Paper Prepared for the C. D. Howe Institute

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Although rates of inflation have dropped sharply in both Canada and the United States, nominal interest rates on both short and long term securities have not dropped commensurately. Many observers express concern that the level of real interest rates in Canada is too high, and may even serve as a serious impediment to the nascent economic recovery. If so, the search for policy initiatives designed to reduce the level of real interest rates is warranted. The purpose of this discussion paper is to set out and to review issues that are pertinent to this debate.

Because Canada is a small open economy, international capital flows operate to drive real interest rates in Canada toward those prevailing in the United States. (If the exchange rate is effectively fixed in terms of the U.S. dollar, international capital flows tend to equalize nominal interest rates as well.) This fact has two key implications. First, developments in the United States and the analysis of the reasons interest rates are high in the United States are directly relevant to Canada. Second, one must recognize that the scope for Canadian policy makers to engineer significant changes in the level of real interest rates in Canada relative to those in the United States is likely to be limited. This latter point receives attention later in this discussion paper.

Are Real Interest Rates Too High?

We first consider the less ambitious question of whether real interest rates are indeed high. Data on recent nominal and pretax real interest rates in Canada are presented in Table 1 while comparable data for the United States are presented in Table 2. To obtain an historical perspective, pretax real rates on ninety day Treasury bills, prime business loans and long term Canada bonds for the period 1954 to 1983 are summarized in Table 3. Analogous data for the United States are summarized in Table 4. And lastly, Table 5 presents data on after tax real rates for Canada only.

The historical data on real interest rates are calculated using the contemporaneous inflation rate as a proxy for the nonobservable inflation expectations of economic agents. This procedure is deliberately crude.

Table 1

Recent Interest Rates and Inflation in Canada

	Nominal Interest Rates		Percentage Change in Consumer Price Index[a]		Real Interest Rates on	
	Treasury Bills (90 day)	Long term Canada Bonds	3 months	12 months	Treasury Bills (latest 3 month inflation rate)	Canada Bonds (latest 12 month inflation rate)
January 1983	9.58	12.28	1.76	8.25	7.82	4.03
February 1983	9.23	11.80	6.99	7.40	2.24	4.40
March 1983	9.17	11.70	4.90	7.22	4.27	4.48
April 1983	9.12	11.18	5.96	6.63	3.16	4.55
May 1983	9.25	11.30	5.23	5.45	4.02	5.85
June 1983	9.17	11.56	5.53	5.01	3.64	6.55
July 1983	9.24	12.03	7.25	5.45	1.99	6.58

Notes: [a] Expressed at annual rate

Source: Bank of Canada Review, various issues.

Table 2

Recent Interest Rates and Inflation in the United States

	Nominal Interest Rates		Percentage Change in Consumer Price Index		Real Interest Rates	
	Treasury Bills	Long term U.S. Government Bonds	3 months	12 months	Treasury Bills (latest 3 month inflation rate)	U.S. Government Bonds (latest 12 month (inflation rate)
January 1983	7.81	10.37	-0.40	3.61	8.21	16.76
February 1983	8.13	10.60	-1.22	3.34	9.35	7.26
March 1983	8.30	10.34	0.41	3.51	7.89	6.83
April 1983	8.25	10.19	2.04	3.85	6.21	6.34
May 1983	8.19	10.21	6.06	3.39	3.14	6.82

Source: Bank of Canada Review; U.S. Department of Labor.

2

Table 3

Nominal and Real Interest Rates in Canada, 1954-1983

Year	Treasury Bills (90 day)		Prime Rate		Canada Bonds (long term)		Inflation Rate
	Nominal	Real[a]	Nominal	Real[a]	Nominal	Real[a]	
1954	1.43	0.83	4.50	3.90	3.18	2.58	0.60
1955	1.62	1.47	4.50	4.35	3.13	2.99	0.14
1956	2.92	1.44	5.04	3.56	3.62	2.14	1.48
1957	3.76	0.55	5.58	2.37	4.11	0.90	3.21
1958	2.25	-0.43	5.27	2.58	4.11	1.42	2.69
1959	4.81	3.71	5.65	4.54	5.07	3.97	1.10
1960	3.20	1.98	5.75	4.52	5.18	3.96	1.22
1961	2.81	1.94	5.60	4.73	5.05	4.17	0.88
1962	4.05	2.85	5.71	4.51	5.11	3.91	1.20
1963	3.56	1.82	5.75	4.00	5.09	3.34	1.75
1964	3.75	1.96	5.75	3.96	5.18	3.39	1.79
1965	3.98	1.52	5.77	3.31	5.21	2.75	2.46
1966	5.00	1.26	6.00	2.26	5.69	1.95	3.74
1967	4.64	1.07	5.92	2.34	5.94	2.36	3.58
1968	6.27	2.18	6.92	2.83	6.75	2.66	4.09
1969	7.19	2.68	7.96	3.45	7.58	3.07	4.51
1970	5.99	2.62	8.17	4.80	7.91	4.55	3.36
1971	3.56	0.72	6.48	3.64	6.95	4.11	2.84
1972	3.56	-1.21	6.00	1.23	7.23	2.46	4.77
1973	5.47	-2.14	7.65	0.03	7.56	-0.05	7.61
1974	7.82	-3.04	10.75	-0.12	8.90	-1.96	10.86
1975	7.40	-3.42	9.42	-1.40	9.04	-1.78	10.82
1976	8.87	1.36	10.04	2.53	9.18	1.67	7.51
1977	7.33	-0.66	8.50	0.51	8.70	0.71	7.99
1978	8.68	-0.24	9.69	0.78	9.27	0.36	8.91
1979	11.69	2.54	12.90	3.75	10.21	1.07	9.14
1980	12.79	2.61	14.25	4.07	12.48	2.30	10.18
1981	17.72	5.26	19.29	6.83	15.22	2.76	12.46
1982	13.96	3.16	15.81	5.01	14.26	3.46	10.80
1983[b]	9.27	4.03	11.50	6.26	11.74	6.50	5.24

Notes: [a] Calculated by subtracting the annual rate of inflation, as measured by the consumer price index, from the average nominal interest rate.

[b] Through April 1983, with inflation calculated at an annual rate.

Source: Bank of Canada Review, various issues.

Table 4

Nominal and Real Interest Rates in the United States, 1960-1983

	Treasury Bills (91 days)		Long term U.S. Government Bonds		Inflation Rate[b]
	Nominal	Real[a]	Nominal	Real[a]	
1960	2.96	1.60	4.01	2.65	1.36
1961	2.38	1.70	3.90	3.22	0.68
1962	2.78	1.56	3.95	2.73	1.22
1963	3.16	1.51	4.00	2.35	1.65
1964	3.55	2.36	4.15	2.96	1.19
1965	3.95	2.03	4.21	2.29	1.92
1966	4.88	1.53	4.65	1.30	3.35
1967	4.33	1.19	4.85	1.71	3.14
1968	5.34	0.62	5.26	0.54	4.72
1969	6.69	0.68	6.12	0.11	6.01
1970	6.44	0.95	6.58	1.09	5.49
1971	4.34	0.98	5.74	2.38	3.36
1972	4.07	0.66	5.63	2.22	3.41
1973	7.02	-1.78	6.30	-2.50	8.80
1974	7.87	-4.48	6.98	-5.37	12.35
1975	5.82	-1.19	6.98	-0.03	7.01
1976	5.00	0.19	6.78	1.97	4.81
1977	5.26	-1.50	7.06	0.30	6.76
1978	7.22	-2.01	7.89	-1.34	9.23
1979	10.04	-3.33	8.83	-4.54	13.37
1980	11.61	-0.79	10.81	-1.59	12.40
1981	14.08	5.17	12.87	3.96	8.91
1982	10.89	7.03	12.23	8.37	3.86
1983[c]	8.14	5.28	10.34	7.48	2.86

Notes: [a] Real interest rate equals the nominal rate less the contemporaneous inflation rate.

[b] Based on the consumer price index, end-of-year versus prior end-of-year.

[c] Through May 1983, with inflation calculated at an annual rate.

Source: Interest rates are drawn from the Bank of Canada Review. Price data are from the U.S. Department of Labor, Bureau of Labor Statistics.

Table 5

After Tax Real Interest Rates on
Treasury Bills and Canada Bonds, 1954-1983

	After Tax Real Rate on Bills			After Tax Real Rate on Canada Bonds			Inflation Rate
Year	τ=0	τ=0.25	τ=0.5	τ=0	τ=0.25	τ=0.5	
1954	0.83	0.47	0.12	2.58	1.78	0.99	0.60
1955	1.47	1.08	0.67	2.99	2.21	1.42	0.14
1956	1.44	0.71	-0.02	2.14	1.24	0.33	1.48
1957	0.55	-0.39	-1.33	0.90	-0.13	-1.16	3.21
1958	-0.43	-1.00	-1.56	1.42	0.39	-0.64	2.69
1959	3.71	2.51	1.30	3.97	2.70	1.44	1.10
1960	1.98	1.18	0.38	3.96	2.66	1.37	1.22
1961	1.94	1.23	0.52	4.17	2.91	1.64	0.88
1962	2.85	1.84	0.82	3.91	2.63	1.36	1.20
1963	1.82	0.92	0.03	3.34	2.07	0.80	1.75
1964	1.96	1.02	0.08	3.39	2.10	0.80	1.79
1965	1.52	0.52	-0.47	2.75	1.45	0.14	2.46
1966	1.26	0.01	-1.24	1.95	0.53	-0.90	3.74
1967	1.07	-0.10	-1.26	2.36	0.88	-0.61	3.58
1968	2.18	0.61	-0.96	2.66	0.97	-0.72	4.09
1969	2.68	0.88	-0.92	3.07	1.18	-0.72	4.51
1970	2.62	1.13	-0.37	4.55	2.57	0.60	3.36
1971	0.72	-0.17	-1.06	4.11	2.37	0.64	2.84
1972	-1.21	-2.10	-2.99	2.46	0.65	-1.16	4.77
1973	-2.14	-3.51	-4.88	-0.05	-1.94	-3.83	7.61
1974	-3.04	-5.00	-6.95	-1.96	-4.18	-6.41	10.86
1975	-3.42	-5.27	-7.12	-1.78	-4.04	-6.30	7.26
1976	1.36	-0.86	-3.08	1.67	-0.62	-2.92	7.51
1977	-0.66	-2.19	-4.32	0.71	-1.46	-3.64	7.99
1978	-0.24	-2.41	-4.57	0.36	-1.96	-4.28	8.91
1979	2.54	-0.37	-3.30	1.07	-1.48	-4.04	9.14
1980	2.61	-0.58	-3.78	2.30	-0.82	-3.94	10.18
1981	5.26	0.83	-3.60	2.76	-1.04	-4.85	12.46
1982	3.16	-0.33	-3.82	3.46	-0.10	-3.67	10.80
1983	4.03	1.71	-0.60	6.50	3.56	0.63	5.24

Notes: See Table 2.
After tax real rate equals after tax nominal rate less the inflation rate.

While more sophisticated procedures for constructing proxies from past inflation data are available, they are unlikely to provide accurate estimates of long run inflation expectations when, as at present, market participants are especially forward looking in terms of future fiscal and monetary policies. For short term securities, the use of the contemporaneous inflation rate is probably satisfactory as a first approximation; agents are likely to be able to form reasonably accurate forecasts of the inflation rate over the next, say, three months. Yet for long term securities, where the relevant measure is the average rate of inflation expected over the term to maturity of the debt instrument, this procedure is clearly less appropriate.[1] There is no use in disguising the fact one can have little confidence in mechanical procedures for proxying, at each point in time, the long run inflation rate expected by economic agents. This implies, in turn, that one can have little confidence in mechanical estimates of the ex ante real interest rates on long term bonds, with the possible exception of a situation in which inflation has been stable for an extended period of time.

The data presented in these tables suggest that pretax real rates of interest on short term securities in both Canada and the United States are at historically high levels. After tax real rates on short term securities are now positive (for a marginal tax bracket of 25 percent), but not without precedent. Because of the nonobservability of long term inflation expectations, one can only conjecture that ex ante real interest rates on long term securities are also high. This issue is treated at length in the next section of this paper, but two preliminary points merit note. First, since the long term real rate is (under the expectations model of the term structure) an average of current and expected short term real rates, the fact that short term real rates are high suggests the possibility that long term real rates are high as well. Second, the strength of the U.S. (and Canadian) dollars against other currencies is suggestive of a high overall level of real interest rates in North America.

Why Are Pretax Real Interest Rates High?

Short Term Real Rates

The high level of short term real interest rates in North America

remains somewhat puzzling. Empirical models designed to explain the behavior of nominal and, by implication, real interest rates in the United States inevitably underpredicted the levels that prevailed in 1982 and now prevail in 1983. [See, for example, Makin and Tanzi (1983)]. The major factor that appears to be contributing to the high level of real rates is the continuing restrictive impact of monetary policy, especially in the United States, despite the recent acceleration in the rates of growth of the narrowly defined money aggregates. Because of the dramatic disinflation (without precedent) which has already occurred, together with continuing financial innovation that makes interpretation of the data on money aggregates even more difficult to disentangle, this restrictive impact may be difficult to capture in existing models of interest rate determination. Large government deficits in both Canada and the United States do, other things equal, place upward pressure on short term real interest rates. Yet, because of the substantial slack in the North American economies, these deficits do not represent a satisfactory explanation of the high level of these real rates.

In Canada, the narrowly defined money supply (M1) grew by 13.6 percent during the twelve month period ending in July 1983, and by a roughly comparable amount in the United States. In spite of these rapid rates of growth, however, it is not clear that the impact of monetary policy has become expansionary. Between their peak levels in 1981 and their present levels, short term nominal rates fell by almost 50 percent. If the interest elasticity of M1 were, for instance, minus one-quarter, the real demand for the stock of money would have increased by 12½ percent (that is, one-quarter of 50 percent). Prices in both Canada and the United States rose by more than 5 percent during this twelve month period. Thus the real supply of money rose by 14 percent less 5 percent, or by about 9 percent in both countries. These illustrative figures suggest that the net impact of monetary policy remains restrictive. This "re-entry" problem, which arises because of the interest sensitivity of the demand for the narrowly defined money aggregates, suggests that a low rate of growth of the money supply is likely to be unduly restrictive in a period of rapidly declining nominal interest rates. Unfortunately, it is difficult - especially in the United States - for the central bank to argue for a more rapid rate of growth of the narrowly defined money supply without compromising the credibility of

its commitment to a basic anti-inflation stance. Financial innovation, in Canada[2] as well as in the United States, further complicates the interpretation of the money supply data, and explains why the Bank of Canada has recently chosen to de-emphasize the short run behavior of the money aggregates. Participants in financial markets may monitor exclusively the actual growth in the narrow monetary aggregates, and may be inadvertently encouraged to do so by the respective central banks. In general, the task of assessing the impact of monetary policy on real rates during a disinflationary period requires one to look beyond the growth rates of the narrow monetary aggregates.

There also exists the possibility that agents have readjusted their behavior in such a way that the tax-adjusted Fisher equation[3] is increasingly relevant, so that nominal rates increasingly reflect a tax as well as an inflation premium. If so, this would be a factor serving to raise the pretax real interest rates on both short and long term securities. Tanzi (1980) and Makin and Tanzi (1983) argue that this may be the case. The present author is more skeptical for two reasons. First, there are other distortions in the tax system that serve to reduce the tax "gross up" implied by the simple version of the tax argument. And second, there is no strong a priori case to suggest that agents have learned only in the last eighteen months or so how to adjust their behavior so that a more appropriate tax gross up is factored by competitive forces into nominal interest rates.

Long term Real Rates

In addition to the issues raised in the discussion of short term rates, there are two key factors that supplement explanations for the "high" level of long term real rates: (i) risk premiums and (ii) the implied path of short term real rates as North American economies recover.

(i) The Risk Premium Built Into Longer Term Rates

Nominal interest rates in both Canada and the United States have exhibited much greater volatility since October 1979. As a result, the variance of holding-period returns on longer term securities has risen

dramatically. Bodie et al. (1983), using the analytical framework of modern finance theory, demonstrate that the increased volatility and correlation with the market of returns on long term bonds in the United States could well have produced a rise in the risk premium accorded these bonds of 400 basis points or more from pre-October 1979 levels. This argument requires the perhaps strong assumption that market participants expect the increased volatility of long term interest rates to persist. If market participants expect the volatility of the rate of growth of the money supply in the United States (which actually increased after October 1979) to decrease, and view the credibility of the Federal Reserve Board's commitment to an anti-inflation stance as increasing, this assumption may be unwarranted. Nonetheless, this evidence and line of reasoning are consistent with an important development in the empirical literature. This is the growing evidence that risk premiums play an important role in the determination of nominal interest rates.

In addition, there is substantial ad hoc evidence to suggest increased uncertainty regarding the future course of inflation, due partly to uncertainty over the extent of the future monetization of federal government deficits. The credibility of the central banks' commitment to a continued anti-inflation stance remains, in the minds of many participants in the capital market, very much an issue. Greater uncertainty regarding the future path of inflation may also be associated with more volatile changes in market participants' point estimates of future inflation rates, and hence of nominal interest rates. If so, both views of the determinants of a higher risk premium have a common denominator, which is uncertainty about future inflation rates.

(ii) Government Deficits and the Real Interest Rate on Longer Term Securities

An increase in the government deficit brought about by, say, a reduction in taxes with government spending held constant will in general increase aggregate demand.[4] When there is full employment, there will be a rise in the short term real interest rate sufficient to crowd out the necessary amount of private spending. When there is less than full employment, the short term real interest rate will rise, but by not so much that

a full offset in private spending is produced.

This received analysis suggests the following. Large reported deficits in the United States are contributing to higher short term real rates, although this effect is muted by the fact that the economy is not at full employment. If economic agents believe that present deficits are structural and will persist, then the expectation will be for future short term real rates to rise as the economy moves toward full employment. In turn, this implies that present long term real rates will be high in anticipation of higher short term real rates in the future. The fact that an economy is not presently at or near full employment is not sufficient to guarantee that deficits perceived to be structural and likely to persist will not place immediate upward pressure on long term real interest rates.

Note that this argument could explain, at least in part, the high level of long term nominal rates without reference to the implicit monetization of future deficits.[5] As noted, high real interest rates in the United States will exert upward pressure on real interest rates in Canada. It is less clear whether large federal government deficits in Canada are, other things equal, serving to place additional upward pressure on real interest rates in Canada.

What are the Implications if Real Interest Rates Remain High?

Many observers express concern that high real interest rates will impede -- if not abort -- the nascent economic recovery. In most instances, these observers point to the large federal government deficits in both Canada and the United States as the source of both the current level of high real rates and the prospect for even higher real rates in the future as public and private borrowing needs collide.

There is debate, beyond the scope of the present discussion paper, on whether reported federal deficits in the two countries are indeed high.[6] Even if structural deficits do exist (that is, inflation-adjusted deficits that would persist if the economy were at full employment), the concern that government deficits will abort the recovery seems overstated, at least under the conventional wisdom. If an economy is already at full

employment, the decision by a government to run a structural deficit (for example by a bond-financed increase in government spending) will lead to an increase in aggregate demand. This increase in aggregate demand, in turn, must crowd out an equal amount of private spending. A rise in the level of real interest rates, which reduces the interest sensitive components of aggregate demand and (through exchange rate appreciation) net export demand, is the crucial step in this full crowding out scenario. If the economy is not at full employment, the decision to run a structural deficit will not result in full crowding out, although real interest rates must rise as part of the adjustment process.

There is, however, a "perverse" case which may underlie the announced concern of many analysts. This is the possibility that an increase in a structural deficit, if perceived as likely to persist, may actually result in a decrease in aggregate demand. Although this concern is not well articulated, a plausible interpretation is as follows.[7] The rise in the structural deficit is presumed to persist in the context of an initial expectation that the economy is moving toward full employment. Short term real rates are thus projected to rise sharply. This produces an immediate rise in long term real rates, especially if the risk premium accorded long term rates rises as well. This rise in long term real rates chokes off sufficient private demand that aggregate demand actually declines when the decision to increase the structural deficit is announced. The most likely scenario for this perverse case would occur where (1) short term real rates are projected to rise very rapidly over time, due to increasing structural deficits and the expectation of a recovery and (2) longer term real rates exert the major impact on aggregate demand. Some might argue that these conditions appear now to be met, especially in the United States.

As outlined above, the perverse case suffers from a dynamic inconsistency. To the extent that high long term real interest rates today stall or abort the recovery, then the implied path of short term real rates that underlies these long term rates cannot materialize. A more sophisticated interpretation of the perverse case would focus on the possibility that the enhanced credibility provided by the decision to reduce a structural deficit today might enable the monetary authority to pursue a more expansionary policy. This possibility, which again seems more relevant for

the United States, merits note. At the same time, it should be emphasized that the presumed expansionary impact on aggregate demand of the deficit reduction is not due to the reduction in the deficit per se, but to the more expansionary monetary policy that it permits.

A legitimate concern, in any event, is the configuration of aggregate demand at full employment. Large structural deficits, with the attendant high level of real interest rates, will displace interest sensitive components of aggregate demand or net export demand through exchange rate appreciation. There thus exists, for example, the legitimate concern that real investment spending by the private sector might decline as a by-product of persistent, structural government deficits.

Finally, in raising the issue of the impact of a high level of real interest rates on the configuration of aggregate demand, one must acknowledge two complicating factors. First, the after tax real cost of debt will vary across sectors; the higher the marginal tax bracket of the representative agent, the lower will be the after tax real cost of debt. The interpretation of this result is, however, more subtle than it might at first appear. One must consider the question why nominal interest rates appear to rise by no more than one-for-one with an increase in the relevant expected rate of inflation. One is tempted to conclude from this stylized fact that first, the supply of loanable funds is relatively inelastic (or that marginal lenders are tax exempt investors such as pension funds) and second, an increase in the inflation rate raises the effective tax rate on corporate source income (inclusive of the tax liabilities faced by shareholders), thus limiting the impact of the decline in the ex ante, after tax, real interest rate on corporate demand for loanable funds.[8] If the latter were not the case, one might expect to see a deficit financed boom in real investment spending whenever the expected rate of inflation rises sharply.

Second, nominal as well as real interest rates are likely to influence the configuration of aggregate demand. This is probably most evident in the market for housing, where an increase in the expected rate of inflation -- and thus in nominal interest rates -- tilts the effective carrying cost on the equal-payment mortgage in such a way as to ration many

potential borrowers out of the market. An analogous problem occurs whenever a potential borrower faces a similar cash flow constraint. This point is important if one is to contemplate a policy initiative, such as a more expansionary monetary policy, which may temporarily reduce real interest rates, but at the expense of an immediate or imminent rise in nominal interest rates.

To sum up, received analysis suggests that the ex ante impact of an increase in a structural deficit on aggregate demand is expansionary. The perverse case that appears to be implicit in the concern of many observers must, however, be noted.[9] In either case, the configuration of aggregate demand at full employment is very much an issue. Attempts to determine the extent to which the present environment is likely to depress the interest sensitive components of aggregate demand are nonetheless complicated by the problem of interpreting the differences in the after tax real cost of borrowed funds faced by different agents, together with the fact that nominal as well as real interest rates undoubtedly impact on aggregate demand.

What Can be Done to Reduce Real Interest Rates from Their Present Levels?

As noted, there appear to be two separate concerns about the present level of real interest rates. The first is that they might stall or slow the economic recovery. The second is that, to the extent that they are a byproduct of large federal government deficits, they may lead to a configuration of aggregate demand at full employment that has too low a level of real investment by the private sector.

Having posited these concerns, there are four types of policy initiatives to consider:

(1) monetary policy,
(2) fiscal policy,
(3) other initiatives designed to enhance the credibility of the government's commitment to an anti-inflation stance, and
(4) tax and other incentives to promote real investment by the private sector if real interest rates remain high in the United States.

All of the above initiatives must be reviewed bearing in mind the caveat that international capital flows will limit the extent to which real interest rates in Canada can diverge from those in the United States. This point merits some elaboration. The extent to which real interest rates in Canada can diverge from their U.S. counterparts remains a somewhat moot issue. While the data presented in Tables 3 and 4 suggest that short term real rates in Canada and the United States have diverged by as much as 500 basis points (in 1979),[10] this result may reflect, in part, the fact that short run movements in the exchange rate are not well predicted by purchasing power parity. For long term real interest rates the evidence is more difficult to disentangle. First and foremost, long term inflation expectations and hence long term real interest rates are not observable. Second, the spread between nominal interest rates on long term Canada and U.S. Government bonds has historically moved in a fairly narrow range, averaging about 125 to 150 basis points. If the expectation of market participants has been that long term inflation rates in the two countries will never diverge significantly, then one could infer that long term real rates in the two countries have also moved quite closely together. Again, however, these market expectations are not observable. On balance, it seems reasonable to presume that there is some scope for real rates in Canada to diverge from those in the United States, but that the trend and the level of Canadian real interest rates is inexorably linked to developments in the United States. The latter proposition appears evident in the behavior of the short term real rates presented in Tables 3 and 4.

The preceding discussion of the present level of real interest rates in Canada and the United States suggests the following:

(i) inflation uncertainty and the less than full credibility of North American governments' commitments to a strong anti-inflation stance presumably contribute to higher long term real and nominal interest rates, respectively;

(ii) large government deficits, especially in the United States, do imply a rising path of short term real rates which, especially if they add to uncertainty regarding the future degree of monetization, contribute today to higher long term real interest

rates; and

(iii) nominal interest rates, pretax real rates (for some taxable as well as non-taxable borrowers) and after tax real rates are all likely to exert some impact on aggregate demand.

A More Expansionary Monetary Policy

An increase in the level or in the rate of growth of the money supply is likely to produce a temporary decline in pretax real interest rates, most likely at the short end of the maturity spectrum.[11] There is no theoretical argument or empirical evidence to suggest, by contrast, that a more expansionary monetary policy would produce a permanent reduction in the level of pretax real interest rates.[12]

There would be at least two adverse consequences of this type of initiative. First, inflation expectations would subsequently rise, thereby placing upward pressure on nominal interest rates. As noted above, nominal as well as real interest rates exert an impact on aggregate demand. An increase in inflation expectations would also lead to higher pretax real rates, to the extent that a tax premium is now being factored into the level of nominal rates. Second, this initiative could result in a subsequent increase in the level of uncertainty regarding the future path of inflation and hence nominal interest rates, thereby raising any risk premium that is embedded in longer term rates; thus real long term rates could subsequently rise. This possibility is particularly relevant if the interest sensitive components of aggregate demand are most responsive to longer term rates.

The nature of this dilemma is most evident in the United States, where market participants are keenly aware of week to week fluctuations in the money supply. An unanticipated rise in the money supply will, upon subsequent announcement, typically cause a rise in both short and long term interest rates. For economists, this response continues to fuel debate on whether the response to the new information contained in these announcements reflects the impact of money surprises on inflation expectations (via a more expansionary prospect for future monetary policy) or their impact on

real interest rates, on the premise that the market treats as credible the Federal Reserve Board's commitment to its announced monetary targets.[13] Market participants in Canada do not appear to pay such close attention to short term movements in the Canadian money supply, perhaps because they consider the Bank of Canada to have downplayed their importance.

A More Restrictive Fiscal Policy

A reduction in government spending or an increase in taxes that reduced the size of the federal government's deficit would place downward pressure on both real and nominal interest rates in Canada.[14] By reducing current and projected aggregate demand and thus current and projected crowding out, and by reducing uncertainty over the monetization of future deficits, this initiative would place downward pressure on real interest rates - especially longer term real rates. By perhaps reducing the expected degree of monetization of future deficits, this initiative could also lower the expected rate of inflation and thus exert downward pressure on nominal rates for any level of real interest rates.

The fact that this initiative would likely reduce aggregate demand while the economy is still moving toward full employment merits emphasis.[15] This initiative would also produce a drop in both nominal and real interest rates which would partially offset the change in the fiscal stance. This expansionary impact of lower interest rates on aggregate demand would, however, likely be delayed relative to the contractionary impact of the fiscal restraint. To the extent that the objective of policy is to promote as rapid a recovery as is consistent with the maintenance of a basic anti-inflation stance, this initiative might be counterproductive. To the extent that the objective is to change the configuration of aggregate demand in favour of private sector spending, this initiative would receive higher marks.

An important caveat to the above remarks lies in the possibility, especially in the United States, that the observed change to a more restrictive fiscal policy might enhance the credibility of the government's overall commitment to an anti-inflation stance. If so, it might enable the central bank to pursue a more expansionary monetary policy without having

an adverse impact on the market's inflation expectations and attitude towards inflation risk. As noted earlier in the text, the impact of monetary policy in both Canada and the United States remains restrictive, despite recent acceleration in the rates of growth of the narrowly defined money supply.

Other Policy Initiatives Designed to Reduce Inflation Uncertainty

To the extent that longer term interest rates include a substantial risk premium to compensate investors for uncertainty regarding the future course of inflation and hence nominal interest rates, initiatives divorced from current monetary and fiscal policy may facilitate a reduction in real rates on longer term securities.[16] The credibility of the government - both with respect to the commitment not to monetize deficits and to eliminate structural deficits - is undoubtedly a key issue. An explicit and credible commitment to reduce any structural deficit after the economy has moved to full employment would increase aggregate demand to the extent that real interest rates or inflation expectations - and hence nominal rates, given real rates - declined as a result. This commitment, and any measures to enhance its credibility, appear to be unambiguously attractive. Unfortunately, the credibility of any such commitment may be difficult to establish.

Tax and Other Incentives to Promote Real Investment by the Private Sector if Real Interest Rates Remain High in the United States

If real interest rates remain high in the United States, then the scope for any permanent reduction in real interest rates in Canada is severely limited. In this situation, it may be necessary to consider tax and other incentives if the policy objective is to promote real investment by the private sector in Canada. Any discussion of tax incentives must, of course, give adequate attention to the previously discussed link between government deficits and real interest rates. The specifics of any such proposal are beyond the scope of the present discussion paper.

Notes

1 Formally, this assumption is consistent with rational forecasting by economic agents only if the actual inflation rate follows a random walk, in which case the best forecast of the future inflation rate in all future time periods is simply the current inflation rate.

2 See in particular, Freedman (1983).

3 If lenders have a marginal tax bracket and if the supply of loanable funds is infinitely elastic at the ex ante, after-tax real interest rate i (1-), then the nominal interest rate must adjust to a rise in the expected inflation rate from zero to * as follows:

$$r(1-\tau) - \pi^* \; i(1-\tau) \qquad \text{(F1)}$$

Equation (F1) is easily rearranged to yield the tax-adjusted Fisher equation:

$$r = i + \pi^*/(1-\tau) \qquad \text{(F2)}$$

If the marginal tax bracket is 50%, then the nominal interest rate must rise by 2% for each one percent rise in the expected rate of inflation if the ex ante, after-tax real interest rate is to remain constant.

4 In the academic literature, there is an argument premised on the equivalence of debt and taxes that implies that government deficits have no impact on aggregate demand. See, for example, Barro (1974). Recent attention on the possibility of a "perverse" case in which government deficits actually reduce aggregate demand is discussed later in this paper.

5 The possibility that there may exist some level of real per capita debt at which subsequent deficits require monetization has, following Sargent and Wallace (1981), received considerable attention in the academic literature. Note that this literature again focuses on the existing level of government debt together with future anticipated deficits as the relevant fiscal variable. Note also that to the extent that the credibility of the Federal Reserve's announced policy of monetary targeting is at issue, one may learn little from the analysis of the prior-monetization of federal deficits in the U.S. as conducted, for example, by Blinder (1982).

6 Most academic economists prefer to monitor an inflation- and cyclically-adjusted budget deficit. Many in the financial and business communities remain unpersuaded. They note (1) the difficulty in defining full employment and (2) the potential volatility of the inflation adjustment, together with the possibility, in effect, that agents do not save the entire inflation component of interest income. Further complications include, for example, the question whether the unfunded liabilities of social security systems should somehow be factored into the measurement of current deficits. Note also that high real interest rates represent a potentially important contribution to inflation-adjusted deficits.

7 See Blanchard (1983) for a preliminary attempt to formalize this argument.

8 Consider, for simplicity, a corporation that issues debt to acquire an infinitely lived real asset. If the nominal gain on the asset is tax exempt, then the corporation would be willing to pay the nominal interest rate implied by (F2) if the expected rate of inflation were to rise. If the nominal capital gain is taxed on an accrued basis as ordinary income, the corporation would be willing to pay only the nominal interest rate implied by (F2) when τ is set equal to zero; that is, the simple "Fisher" effect will prevail.

9 The probability of this outcome rises if one entertains the possibility of nonrational expectations formed by economic agents, a possibility suggested by recent empirical work that points to excess volatility in stock and bond prices. See, for example, Shiller (1979, 1981) and Pesando (1983).

10 One must look at the exact magnitude of these reported spreads with caution, remembering, for example, the well known flaws in the consumer price index in the United States.

11 Sargent and Wallace (1975) provide theoretical support for the proposition that an unanticipated increase in the level or the rate of growth of the money supply can temporarily reduce (pretax) real interest rates, especially at the short end of the maturity spectrum. If at least some prices are fixed in advance of an announced (and previously unanticipated) future increase in the money supply, then theory indicates that real interest rates will also temporarily fall [Phelps-Taylor (1977), Fisher (1977)]. Empirical evidence that anticipated changes in the rate of growth of the money supply can stimulate real output [Mishkin (1982)] provides at least indirect evidence that anticipated increases in the rate of growth of the money supply -- in the sense described in the previous sentence -- can temporarily lower real interest rates. Recent empirical work by Melvin (1983) confirms that an acceleration in the rate of growth of the money supply, whether anticipated or not, can still temporarily reduce short term nominal interest rates in the United States, although for no more than a month or so. The implication is that such accelerated growth can reduce short term real rates for <u>at least</u> this period since one can certainly rule out the possibility that agents view accelerated money growth as disinflationary.

The degree of flexibility of prices in the above arguments merits emphasis. A once-and-for-all change in the money supply will <u>initially</u> affect real interest rates unless there is an immediate and proportional change in the general price level. An increase in the rate of growth of the money supply will <u>initially</u> affect real interest rates unless there is an immediate jump in the price level sufficient to reduce the real supply of money in line with the lower real demand for money associated with higher inflation expectations. The evidence found by Mishkin (1982) may thus be used to infer that such price changes do not occur.

12 Note that if nominal interest rates rise only one-for-one with an increase in the expected rate of inflation, then an increase in the growth rate of the money supply will, by raising the actual and the

anticipated inflation rate, depress the after tax real interest rate for taxable borrowers and lenders. The extent to which nominal interest rates actually incorporate the inflation premium described above is also a moot point, as discussed, for example, by Summers (1982).

13 See Roley and Walsh (1983) and references therein. Note that the debate over the interpretation of these announcement effects pertains to the new information that is provided regarding the future course of monetary policy. As such, these announcement effects are distinct from the effects cited earlier in the text and in footnote 11. The effects cited earlier refer to the fact that unanticipated changes in the money supply will -- as they are occurring -- serve to depress real interest rates.

14 Again, the impact on both nominal and real interest rates would depend upon the extent to which the change in the fiscal stance had been anticipated by market participants. If the response had been fully anticipated, longer term rates would be unchanged in the absence of risk considerations. Implicit in the discussion in the text is the presumption that a significant portion of any change in the fiscal stance is likely to be unanticipated.

15 Again, this remark abstracts from any perverse case, where rational -- or irrational -- expectations of market participants are such that an announced increase in a structural deficit leads to net reduction in aggregate demand.

16 To the extent that the nondiversifiable risk associated with the real return on long term bonds has increased, modern finance theory indicates unambiguously that their equilibrium real return must rise if investors are to hold them in efficiently diversified portfolios. A rise in their equilibrium return implies, in turn, a rise in their yield to maturity.

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The Symposium – A Summary of the Proceedings

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Introduction

The Symposium's purpose was to reach conclusions about the circumstances under which real interest rates can be expected to decline and the implications of their remaining high. In order to facilitate this discussion, however, it was necessary first to define what is meant by "real" interest rates and how they can be measured, in both long and short term capital markets. In addition, the significance of pre- and post-tax considerations had to be assessed. A discussion of these terms and their significance to the analysis is outlined below. Reasons for high real rates are next reviewed, followed by commentary on the implications of their remaining high and the circumstances under which they may be expected to decline.

Definition of Terms and Measures

Real Interest Rates: The term real interest rates refers to the difference between the nominal interest rate charged by lenders or paid by borrowers and the inflation rate. While this is a straightforward concept, it is fraught with measurement problems. Both borrowers and lenders care about the future rate of inflation relative to the nominal interest rate which they negotiate for the period a loan is outstanding. The expectation of this future rate is influenced by myriad factors including recent inflation rates and imperfectly anticipated government policy measures. In short, the measurement problem for market participants arises from the fact that they lack the proverbial crystal ball to foresee the future. For analysts, the problem is that, even after the fact, they cannot find out what it was that investors thought they saw in their hazy crystal ball.

For these reasons, there is no available market measure of real interest rates that is without qualification. If a market exists for two debt securities that are identical in their term and credit risk but one security is indexed against inflation and the other is not, then the real interest rate and the inflation premium can be estimated. No such indexed

bonds exist in North America, however. The proxy measure for the real interest rate that has been adopted by James Pesando in his paper is the difference between selected nominal interest rates and the current rate of inflation. This measure is likely to be a better approximation of short than of long term real interest rates; measures of the latter are subject to debate.

Adjustments for Taxation: Real interest rates are sometimes adjusted for taxes so as to take account of both the ability of some taxable borrowers to deduct interest expenses, thereby lowering the cost of funds, and the burden on lenders of taxes on interest income. This means that, in measuring real interest rates, it has to be decided whether pretax or post-tax real rates are the correct subject of analysis. In this Symposium, some of the participants noted that after a simple tax adjustment both short and long term real interest rates are not exceptionally high at the present time when viewed in an historical perspective. There has, however, been a dramatic swing from negative to positive after tax real rates in the past few years.

It was pointed out that, among borrowers, simple tax adjustment may be valid only for home owners in the United States who can deduct mortgage interest and can defer or roll over taxation of capital gains. For most other borrowers in North America, particularly corporate borrowers subject to taxation of revenues generated by investment, the net benefits of tax deductibility of interest payments are significantly lower.

A large proportion of lenders are institutions that manage tax sheltered investment funds or are subject to low marginal tax rates. To these lenders the pretax real interest rate is their real return. Given these offsetting factors most Symposium participants felt that pretax real interest rates are the best available approximation of real interest rates, but it was recognized that after tax rates vary significantly among different sectors of the economy. The participants agreed that the differential tax situation of different economic sectors means that the tax system significantly influences the effects of high real interest rates on economic structure and the composition of economic activity.

In summary, after considering these issues of definition and measurement, participants concluded that short term real interest rates are high under any measure. One participant compared identifying high real interest rates to the difficulty of the judge attempting to identify obscenity, who concluded: "I cannot give you a definition but I know it when I see it."

Why Are Real Rates so High?

In dealing with this question Symposium participants identified three major factors that contribute to the high level of real interest rates: the imposition of risk premiums in financial markets, the stance of U.S. monetary policy and the conduct of U.S fiscal policy.

Risk Factors: The shift in Federal Reserve Board operating procedures in 1979 to emphasize control of monetary aggregates has increased the volatility of short term nominal interest rates. Thus the risk to lenders has increased even in short term markets. Since the 1979 changes, the increased variability in inflation and interest rates has led some observers to suggest that the increase in real interest rates is explained by the increased risk of holding debt instruments and bonds. The Pesando paper argues that the increased "risk premium" incorporated in interest rates may explain the differential between short term and long term real rates, but that it does not explain high short term real interest rates, per se.

In discussion, some participants noted that the differential between short and long term real rates would tend to narrow to the extent that economic agents expect lower and less volatile future inflation because of continued disinflationary monetary policy - an expectation that would be reflected in temporarily high short term real rates. If, however, these high short term real rates are expected to persist several years into the future, then long term real rates will remain high as well. And yet, risk considerations cannot provide an explanation for high real interest rates on overnight or even ninety day money. It was felt that monetary policy and fiscal policy are more important influences.

Monetary Policy: In assessing the link between monetary policy and

interest rates considerable attention was paid by Symposium participants to the recent stance of monetary policy. There was general agreement that the expansion of M1 -- currency and demand deposits -- by about 13 percent in both Canada and the United States between July 1982 and June 1983 accommodated real growth but remained disinflationary. Conduct of monetary policy during the transition from high to low inflation was fraught with technical problems that were discussed at length. If the main goal of the central banks is to control the growth of monetary aggregates, both nominal and real interest rates will be determined in credit markets. The central dilemma concerns interpretation and control of growth in those monetary aggregates. At the end of a prolonged recession with both interest rates and inflation falling, market participants can be expected to shift money balances from savings to cash and demand deposits. Such a technical adjustment is once and for all but it leads to a surge in growth in demand for M1. Accommodating this demand will facilitate real growth, but if this accommodation is excessive and occurs over too long a period, it can sow the seeds of a new inflation. Symposium participants were generally of the view that the central banks in North America are managing this adjustment in an appropriate fashion.

There was the added caveat, however, that current monetary policy, on balance is regarded as being relatively tight at present. Some concern was expressed that future monetary policy might err on the restrictive side, thereby slowing the pace of the recovery, because of concerns about controlling inflation. The commitment of central banks in North America to securing the gains in terms of reduced inflation is gradually leading to increased credibility in the view of financial markets. This change in perception should facilitate some downward revision in both nominal and real interest rates. What could not be lost sight of, however, was the fact that in the United States, monetary policy at the present time is being conducted with close regard to the conduct of fiscal policy, to be discussed below.

Much of the discussion of monetary policy related to the United States. With respect to Canada's monetary policy, it was felt that the high degree of capital market integration between the two countries means that Canada has only a limited degree of manoeuverability. And while large

swings in the differential between Canadian and U.S. short term nominal and real interest rates can occur in a short space of time, the basic level and trend movement of short term real interest rates in Canada is determined in the United States. It was pointed out that the differential in long term real interest rates was much smaller and less variable.

Fiscal Policy: It was generally held by Symposium participants that a major source of upward pressure on both nominal and real interest rates in North America is attributable to the anticipated increase in the cyclically adjusted or "structural" federal budget deficit in the United States. The current unadjusted deficit is expected to remain at about U.S. $200 billion throughout the next four to five years, despite a gradual decline in unemployment. It is the persistence of this current deficit (and an increase in the structural deficit as unemployment declines) that creates significant upward pressure on real interest rates. The reason is that deficits of this magnitude are widely expected to create a demand for available savings that will compete with private demand as the economy recovers and thereby maintain upward pressure on real rates.

An additional factor is that the looming U.S. deficits in the mid-1980s undermine the credibility of the U.S. Federal Reserve Board's commitment to continue to control inflation. Financial markets seem to anticipate that there will be pressures on the Federal Reserve to pursue a tighter monetary policy than would otherwise be the case. In either event, real interest rates -- both short term and long term -- are under upward pressure because financial markets anticipate future pressures from government borrowing and because this severely constrains the options for the conduct of monetary policy.

It was therefore agreed that credible commitment to measures that would reduce the projected deficit within the next two years could significantly reduce pressures on both long and short term real interest rates.

With respect to Canada, it was pointed out that the higher rate of domestic savings and the anticipated reduction in the federal structural deficit places less upward pressure on long term real interest rates. There was a general anticipation that the structural deficit would not increase during economic recovery, and might decline. Such a reduction would

have only a modest downward impact on the differential between U.S. and Canadian short term real rates.

In summary, the anticipated persistence of high levels of U.S. government borrowing relative to the level of domestic savings, despite recovery, was considered to exert upward pressure on long term real interest rates. A combination of restrictive monetary policy and borrowers' choice of short term borrowing to reduce long term risks is considered to be the main explanation for persistently high short term real rates.

What Will Happen if High Real Interest Rates Continue?

Responses to this question tended implicitly to accept the close causal connection betwen the projected large U.S. structural deficit and high long term real interest rates. Participants were of the view that continuation of the current high U.S. long term real rates would dampen investment activity in both countries unless there were an unusually large number of projects that would produce positive rates of return despite the high cost of capital.

An important distinction, however, was made between the implications of this dampened investment activity for the future growth paths of total economic activity and employment in the recovery, and its implications for the composition of activity. Two possible scenarios were identified:

- The government-consumer led recovery: In this case, high real rates persist because neither fiscal nor monetary policies alter appreciably from their current stances. Aggregate demand and employment can be expected to be buoyed in the next one to two years by government spending associated with the structural deficit, and by less interest-sensitive activity in the private sector such as consumer spending. There would be a smaller pickup in investment activity than could be expected if real interest rates were lower. The important impact of continued high real rates would be, therefore, on the composition of activity. In the longer term in such a scenario, growth would be slower than expected if real rates were reduced, because of the consequent relative decline in investment in new productive capacity.

This case was thought by participants to be most likely if cur-

rent policies persist for the basic reason that the added spending associated with the deficit will be stimulative in the short run. But an alternative scenario received considerable attention.

- A stunted recovery: In this, Professor Pesando's "perverse" case, persistence or increase in the structural deficit could lead to slow or even reduced growth in the short term through the following process outlined by Professor Pesando in his paper: the associated public sector borrowing requirements, because they are perceived to persist as the recovery picks up steam, result in a projected rise in short term real rates. This in turn brings about a rise in long term real rates which could choke off more private sector activity than could be expected to be added in the public sector by the deficit spending.

In both of these scenarios, the demands of the public sector are expected to crowd out private sector activity, in the competition for goods, services and capital. In the government-consumer led recovery case the economy moves to higher output and employment but investment spending is displaced. In the stunted recovery case the crowding out of the private sector is greater than the increased activity in the public sector.

Of additional concern is the impact of government activity in both cases, on the imports and exports of goods and services in both countries. In the United States, increased government demand associated with the structural deficits can be expected to increase imports and could even spur an export-led recovery in Canada in the short term. In the longer term, however, resources would increasingly be channelled into the production of non-traded goods. The reason would be that exchange rate appreciation associated with capital inflows attracted by the continued high real interest rates could be expected to reduce export competitiveness.

Augmenting the discussion of these two dominant scenarios was an interesting strategic proposition: that the structural deficits and high real interest rates are part of a long run U.S. growth strategy to offset tax induced distortions in economic activity that were exacerbated by the recent bout of inflation. Tax policies have allowed interest deductibility for housing that has discouraged personal saving and favored those activities at the expense of industrial investment. To correct this perceived

misallocation of resources, the current stategy, it was argued, is to reduce taxes so as to favor saving and to channel that added saving into investment. This strategy, because it reduces government revenues, also contributes part of the large structural deficit. The high real interest rates resulting from the persistent structural deficits can be expected to restrain spending on interest sensitive consumer durables and housing.

In conclusion, the implications of continued high real interest rates are, quite clearly, to dampen investment activity over the next two to four years, to dampen the formation of productive capacity, to weaken growth at the end the decade and possibly to weaken growth rates much before then. There was general agreement that the high real rates will not abort the recovery, and some participants felt that they will not even reduce economic growth in the recovery. The important point on which there was agreement is that they will influence the composition of the recovery by reducing investment, and will therefore reduce long run growth potential.

What Can Be Done?

The response to this question was, perhaps predictably, simple. The most important policy levers are in the United States. To the extent that U.S. monetary policy is committed credibly to hold the line on inflation and to dampen interest sensitive economic activity with high real rates while the future structural deficit persists, the key to lower term real rates in both countries is substantial reduction of the U.S. structural deficit. Indeed, some participants believed that an immediate and substantial reduction (of $50-$100 billion) is essential if economic growth is to continue to gain momentum in the recovery. These participants felt that increasing levels of investment are essential to maintain this momentum and will not be forthcoming if the deficit is not reduced now. Others were less optimistic that deficit cuts would aid recovery and expressed concerns about the negative short term impact of such large and immediate cuts. It was also acknowledged that a reduced U.S. deficit would create more freedom for the conduct of U.S. monetary policy. And it was thought that the Federal Reserve Board policies are slowly succeeding in restoring

credibility and confidence in a return to greater price stability.

This conclusion did not ignore Canada's structural deficit whose significance relates less to Canada's real interest rates, closely linked as they are to those in the United States, and more to the desirable composition of future economic activity in Canada.

The main conclusion was, however, qualified in three important ways:

- First, the U.S. deficit-interest rate link should be qualified by recognition that structural and institutional factors that inhibit economic adjustment are also important determinants of the pattern of future economic growth.

- Second, the way deficits are reduced has important implications for the composition of growth. One option is to raise taxes as it is suspected the U.S. government will be forced to do. There was little enthusiasm for this option because it dampens private sector activity and enlarges the public sector, but it is better than no action at all. Reducing government spending was the favorite option for both countries because it was believed that it would aid in changing the composition of activity in favor of investment in future productive capacity. There was agreement that while there is less concern about total government deficits in Canada as a crowding out factor in financial markets, reduction of government's share of spending would be desirable in order to assist this change in the composition of activity.

- Third, the timing of moves to reduce the deficit has important consequences. Some participants opposed an immediate cut in the U.S. deficit. In favoring an announced commitment to reduce the deficit as recovery proceeds, they pointed out that this commitment would have to be made in a way that is credible. This delayed reduction in in the deficit was felt to be a policy option that would be the most likely to achieve a sustainable recovery. Continued stimulus from the structural deficit early in the recovery would aid momentum; belief that the public sector would reduce its borrowing requirements as the private sector picks up steam would build confidence in financial markets, lower real interest rates and aid the required investment response.

In reaching this main conclusion, participants discussed and compared the impact of three other aspects of policy outlined by Professor Pesando in his paper:

- More expansionary monetary policy as an option: This option could be expected to bring about a temporary decline in short term real interest rates, but it would lead to a rise in inflation expectations, an increase in inflation uncertainty, the imposition of inflation and risk premiums by lenders and erosion of the credibility of the anti-inflation commitment of central banks. A change in the mix of monetary and fiscal policy, however, involving a credible commitment to reduce the deficit would permit some easing of monetary policy in the medium term without sacrificing the credibility of the central bank's commitment to control inflation.

- Policy credibility: The requirement of credible commitment by governments to reduce structural deficits as recovery occurs, and by central banks to reduce inflation, was frequently stressed.

- Incentives to promote private investment: The use of tax incentives to offset the impact of continued high real rates on the cost of capital investment received little support. It was perceived as "Fiddling". Far better to reduce the deficit than to adjust the tax system to offset the deficit's negative impact.

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